Lehigh County Authority
Cost of Service Study
Purpose of Cost of Service Study

- Meet requirements of the service agreements
- Insure sufficient annual revenues
- Adhere to “Pay for what you use”
- Provide financial plan for 5 year period
Cost of Service Philosophy

• Costs incurred for specific customers of the system should be allocated to those specific customers.
• Costs incurred for the benefit of the whole system should be shared by all customers.
Customer Categories

- Residential
- Commercial
- Industrial
- Public
Rate Design Values

- Be based on the costs to provide service to customer classes.
- Provide stable revenue to the LCA.
- Be understandable to customers and allow them to influence their bills by adjusting their use patterns.
- Be affordable.
Rate Design Requirements

• Revenue Sufficiency:
  Rates must be sufficient to fund all service costs.

• Regulatory and Contractual Compliance:
  Rates must comply with Rate Covenants and Pennsylvania Municipal Authorities Act and other state requirements.
Components of Rate Study

• Revenue: How much must be collected via rates to cover costs?

• Costs: What does it cost to provide high quality and reliable service?

• Rate Design: How shall we recover costs? From whom?
Key Questions for LCA Rate Study

• How should capital expenses be incorporated to annual revenue requirement?

Current Debt Payment or Pay as you Go?

• Rate Increase threshold?

Inflation Rate over Time?
Cost of Service Study Procedure

- Determine annual revenue requirements
- Update Cost of Service Rate Model
- Evaluate and recommend water rates for 2018 – 2023
- Calculate impact of proposed rates
Allocation to Functional Categories
Allocation to Functional Categories
Allocation to Functional Categories
Cost Components

- Base Costs
- Extra Capacity – Max Day Demand
- Extra Capacity – Max Hour Demand
- Customer Costs – Billings
- Customer Costs – Meters
- Customer Costs – Services
- Fire Hydrants
# Calculation of Unit Cost of Service

<table>
<thead>
<tr>
<th>Cost Components</th>
<th>Base</th>
<th>Maximum Day</th>
<th>Maximum Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td># Gallons</td>
<td># Gallons</td>
<td># Gallons</td>
</tr>
<tr>
<td>Commercial</td>
<td># Gallons</td>
<td># Gallons</td>
<td># Gallons</td>
</tr>
<tr>
<td>Usage</td>
<td># Gallons</td>
<td># Gallons</td>
<td># Gallons</td>
</tr>
<tr>
<td>Industrial</td>
<td># Gallons</td>
<td># Gallons</td>
<td># Gallons</td>
</tr>
<tr>
<td>Institutional</td>
<td># Gallons</td>
<td># Gallons</td>
<td># Gallons</td>
</tr>
<tr>
<td>Fire</td>
<td># Gallons</td>
<td># Gallons</td>
<td># Gallons</td>
</tr>
<tr>
<td>Total Usage</td>
<td>X</td>
<td>Y</td>
<td>Z</td>
</tr>
</tbody>
</table>

## Unit Cost of Service

$/1,000 gallons

### Total Cost Per Class

<table>
<thead>
<tr>
<th>Customer</th>
<th>Base</th>
<th>Maximum Day</th>
<th>Maximum Hour</th>
<th>Total Cost Per Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Unit $ x # Gals.</td>
<td>Unit $ x # Gals.</td>
<td>Unit $ x # Gals.</td>
<td>$$$</td>
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<tr>
<td>Commercial</td>
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